Enterprise Application Deployment

J2EE Made Easier

Session 612

Enterprise Application Deployment

J2EE Made Easier

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Introduction

- Introduce J2EE and JBoss
- Discuss
  - Deploying J2EE applications
  - Managing J2EE applications
- Deploying WebObjects applications in JBoss

What You'll Learn

- J2EE from 30k feet
- JBoss architecture
- JBoss/Mac OSX integration
- Deploy J2EE applications on Mac OSX Server
- Manage J2EE applications on Mac OSX Server

J2EE 1.3

- What is it?
  - Platform for building multi-tier applications
  - Standardized
  - Modular components
  - Container provides services to multiple applications
- Why do you care?

J2EE 1.3

- Technologies you've heard of
  - EJB, JSP, Servlets
- Other technologies
  - JDBC, JNDI, JMS, CORBA, JAAS, JTA
  - JavaMail, J2EE Connector Architecture
- Looking forward
  - Web services (JAX, SAAJ,...)
- And more...

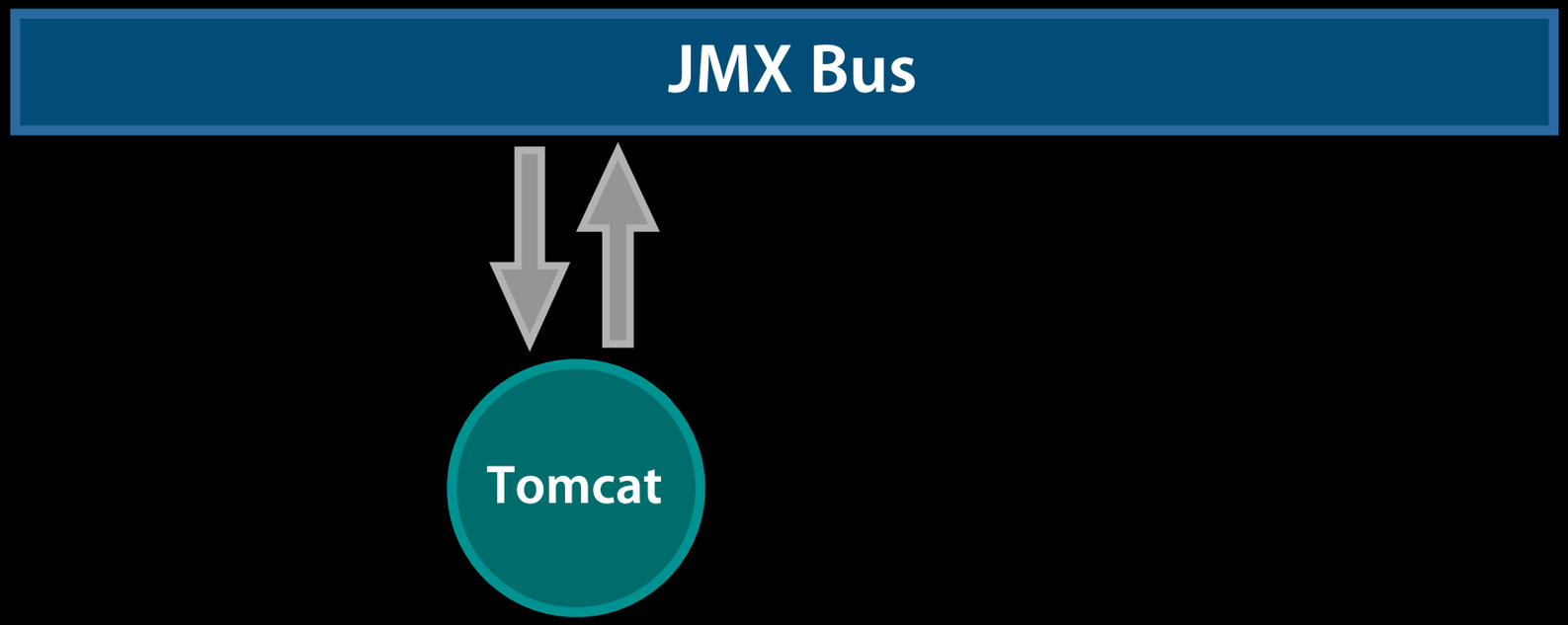
JBoss

- Open source J2EE container
- Very active community
  - Heavily involved in JSR process
- Modular architecture
  - Supports clustering and farming out of the box
  - Easy to add new services

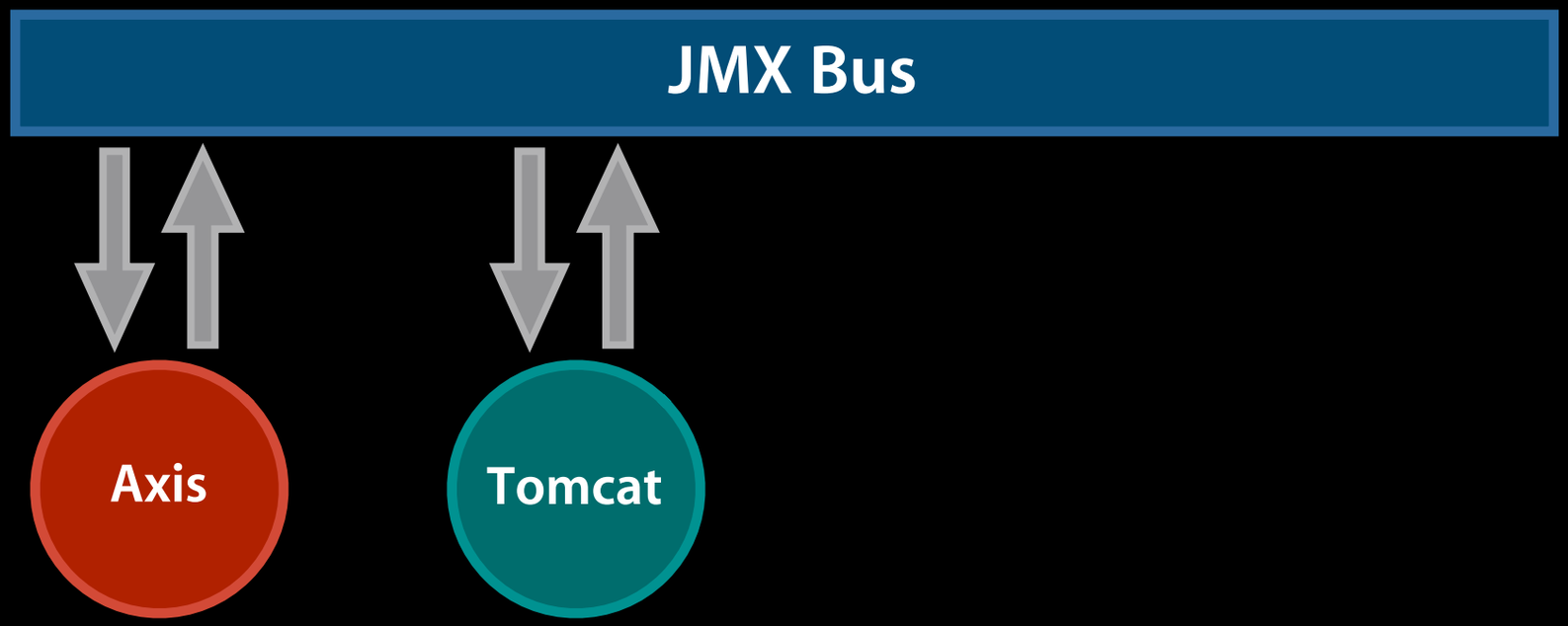
JBoss Architecture

JMX Bus

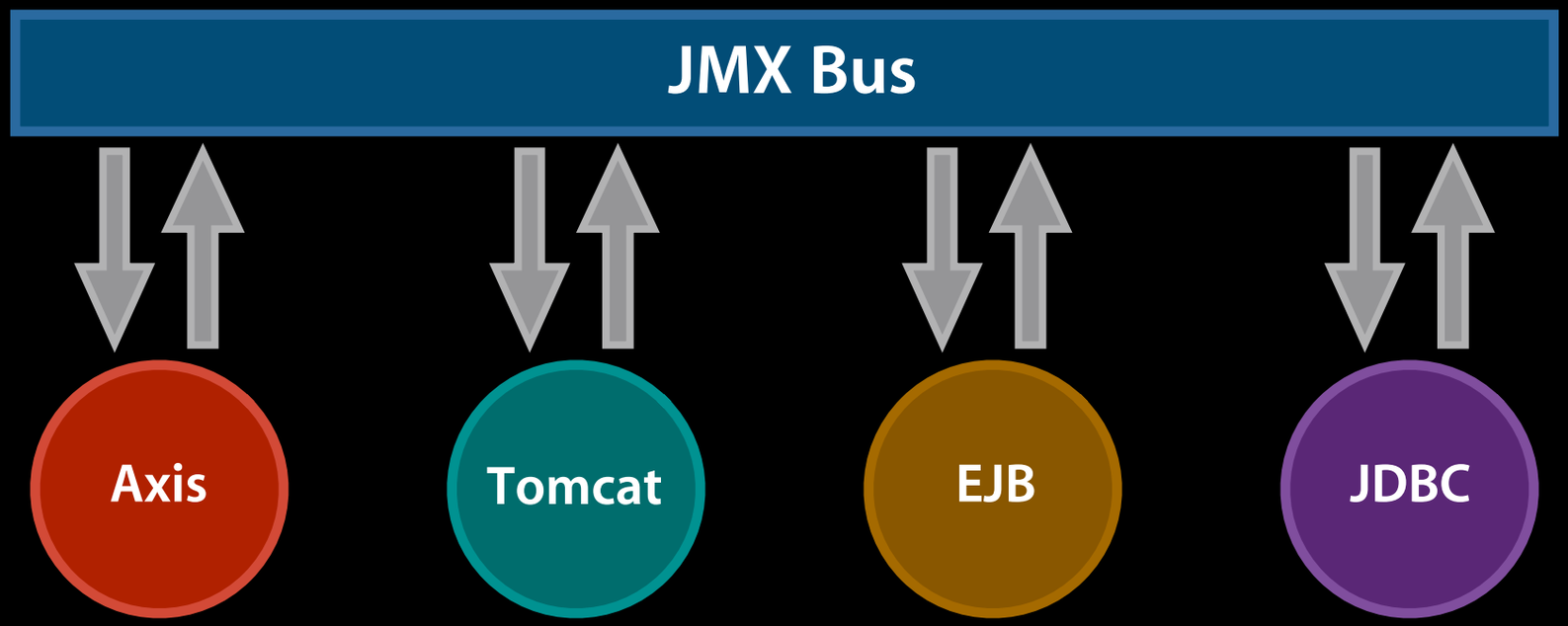
JBoss Architecture



JBoss Architecture



JBoss Architecture



JBoss II

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- Open source J2EE container
- Very active community
  - Heavily involved in JSR process
- Modular architecture
  - Supports clustering and farming out of the box
  - Easy to add new services
- Poor deployment and management tools

JBoss on Mac OSX

- JBoss will be part of Mac OSX
  - Developer on Mac OS X Client
  - Deployment on Mac OS X Server
- Integrated with Mac OS X tools

JBoss on Mac OSX Client

- Part of developer tools package
- You get
  - JBoss developer configuration
  - Xcode templates for building J2EE applications
- Shipped in Developer Preview SneakPeeks

JBoss on Mac OSX Server

- Part of default install
- Replacement for Tomcat
- You get
  - JBoss
  - Multiple configurations
  - Management tool
  - Deployment tool
- Integrated with Server Admin

But I was Using Tomcat Before...

- Nothing important has changed
  - Enable from Application Server
- Same port
- Still in /Library/Tomcat
- Can still run standalone

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- Nothing important has changed
  - Enable from Application Server
- Same port
- Still in /Library/Tomcat
- Can still run standalone
- Newer version (4.1.25)
- When running in JBoss
  - Can configure using our tools

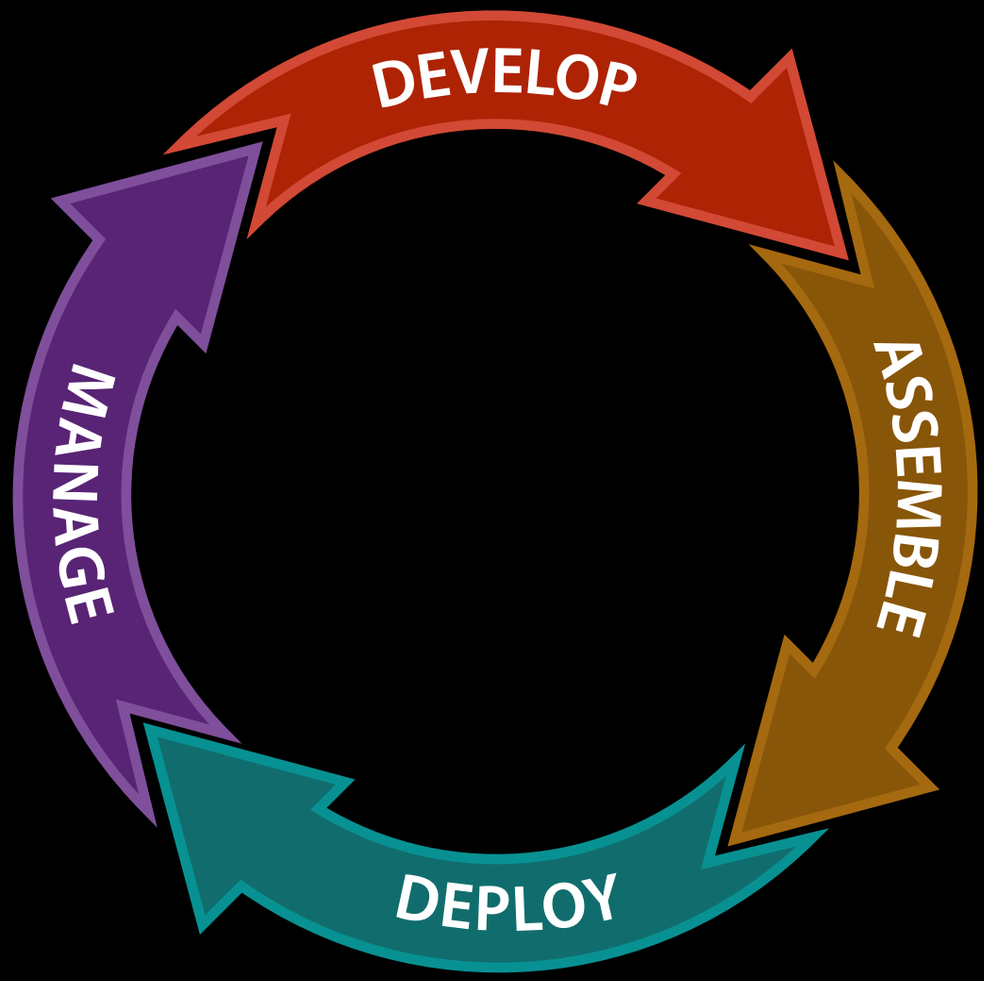
Configurations

- Standalone
  - Basic configuration
  - Supports hot deployment of applications
- Clustered
  - Everything in standalone
  - HTTP session failover for Tomcat
  - Load balancing
  - Automatic propagation of changes

Configurations

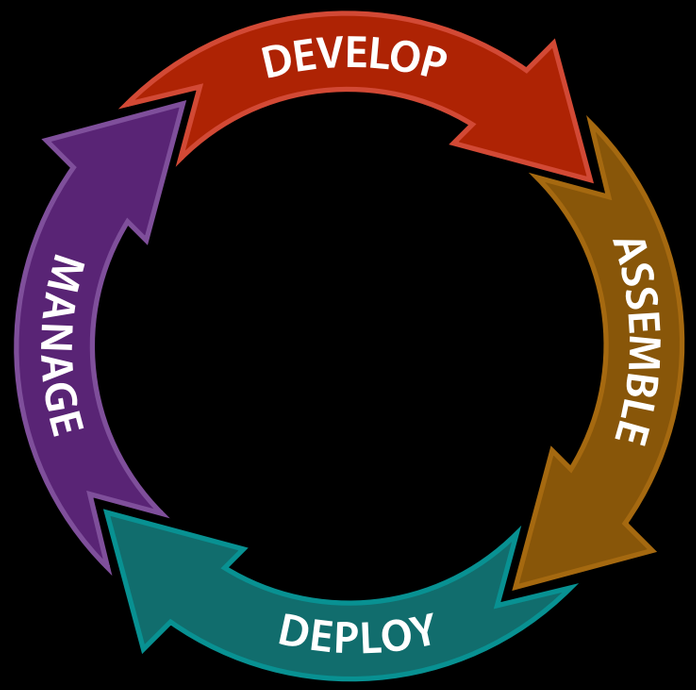
- Net-boot client
  - Download configuration from network
  - One location to manage
- Net-boot server
  - Any WebDAV enabled web server
  - Simple to set up

Application Lifecycle



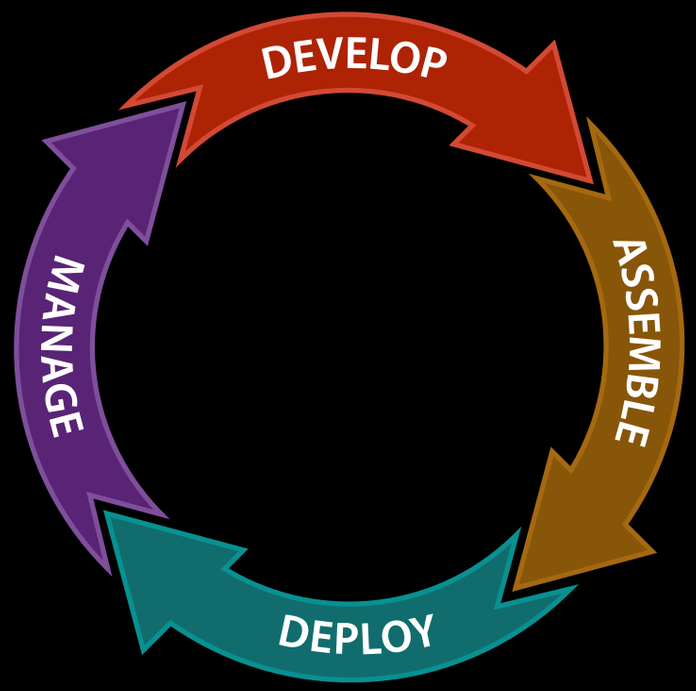
Building Applications

- From Xcode
  - Xcode templates
  - ant
- Auto-generated
  - Interface classes
  - Deployment descriptors



Assembling Applications

- Done during build phase
- Uses XDoclet to generate deployment descriptors
- Benefits
  - Synchronize deployment descriptors with code
  - Synchronize deployment descriptors with each other



Assembling Applications

Assembling Applications

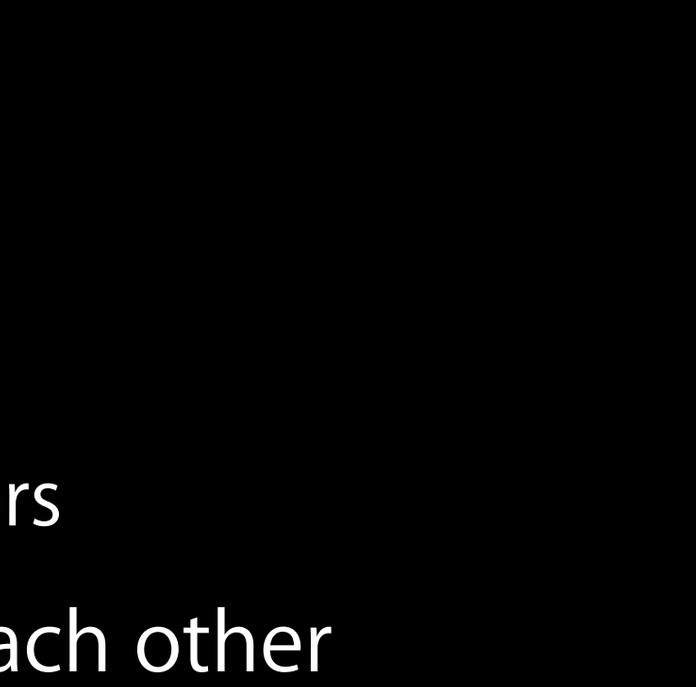
```
<ejb-jar >
  <description><![CDATA[MyEJB]]></description>
   <display-name>My EJB</display-name>
  <enterprise-beans>
      <!-- Session Beans -->
      <session >
         <description><![CDATA[MyInfoBean]]></description>

         <ejb-name>MyInfoBean</ejb-name>

         <home>com.apple.j2ee.MyInfoBeanHome</home>
         <remote>com.apple.j2ee.MyInfo</remote>
         <ejb-class>com.apple.j2ee.MyInfoBean</ejb-class>
         <session-type>Stateless</session-type>
         <transaction-type>Container</transaction-type>
...
```

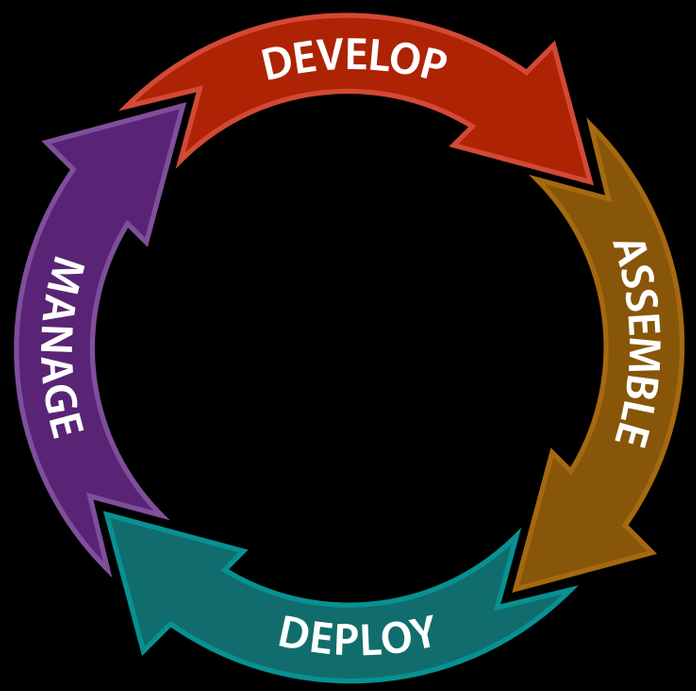
Deploying Applications

- J2EE applications
  - Are configured at deployment
  - Have multiple deployment descriptors
- Deployment descriptors reference each other
- Tool with friendly UI becomes necessary



Deployment Tool

- Written using WebObjects
  - Direct to Web
  - EOF/XML persistence engine (JAXB)
- Gets resources from container
- Handles
  - Cross-linking
  - Verification

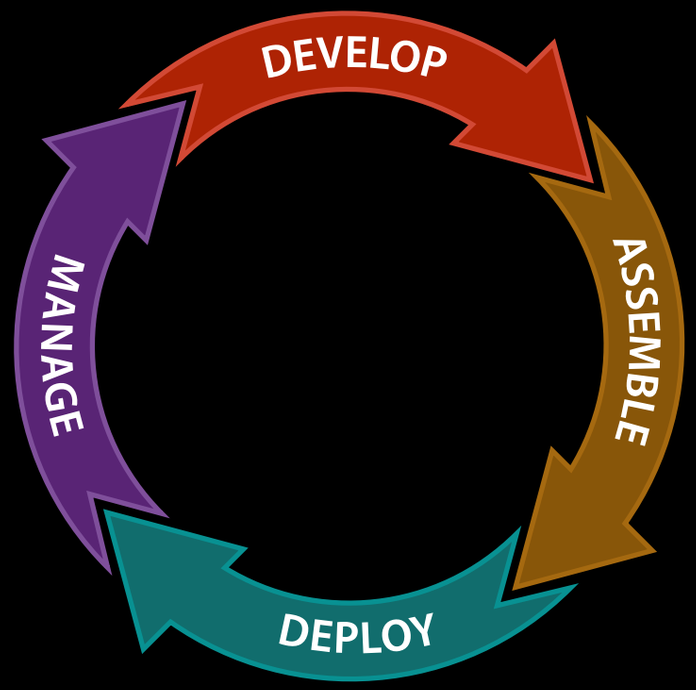


Demo

Deployment Tool

Management Tools

- Two components
  - Server Admin
  - Web-based management and configuration tool
- Manage JBoss configurations
  - Start/stop server
  - Start/stop services
  - View and configure services



Demo

Management Tool

JBossManagement

- Web-based for remote administration
- Secure: SSL and OpenDirectory
- Allows you to
  - View and configure deployed services
  - Start/stop services

JBossManagement

- Web-based for remote administration
- Secure: SSL and OpenDirectory
- Allows you to
  - View and configure deployed services
  - Start/stop services
  - Deploy applications
  - Monitor deployed applications

Demo

Management Tool Revisited

WebObjects and J2EE

- Deploy WebObjects applications in JBoss
- Support for building .wars from Xcode
  - Single file deployment
- Frameworks packaged as Java archives
  - Can be embedded in .war, .jar or .ear archives
- Support for JNDI properties

Demo

Deploying a WebObjects Application

Conclusions

- Develop J2EE applications on OSX Client
- Deploy J2EE applications on OSX Server
- We have the best tools for JBoss
  - Assembly tool to make your life easier
  - Management tool for remote administration
- Deploy WebObjects in JBoss

For More Information

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http://developer.apple.com/wwdc2003/urls.html

Reference Library

Resources

Product Information

http://www.apple.com/webobjects

Developer Support

http://developer.apple.com/webobjects

Enterprise-Level WebObjects Support And Consulting

http://www.apple.com/services/technicalsupport

http://www.apple.com/services/consulting

Mailing List

WebObjects Announcements

webobjects-announce@apple.com

Reference Library

JBoss Project
http://sourceforge.net/projects/jboss/

Tomcat
http://jakarta.apache.org/tomcat

Ant / XDoclet
http://ant.apache.org
http://xdoclet.org

http://developer.apple.com/wwdc2003/urls.html

Q&A

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